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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,924	02/03/2004	Roger A. Grey	01-2623A	1640
24114	7590	02/23/2005	EXAMINER	
LYONDELL CHEMICAL COMPANY 3801 WEST CHESTER PIKE NEWTOWN SQUARE, PA 19073			COVINGTON, RAYMOND K	
		ART UNIT	PAPER NUMBER	
		1625		

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/770,924	GREY ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Raymond Covington	1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 25 February 2004.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                              |                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                                             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | Paper No(s)/Mail Date. _____ .                                              |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/25/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|                                                                                                                                              | 6) <input type="checkbox"/> Other: _____ .                                  |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones US 6,307,073 in view of JP 4-352771.

**Determination of the scope and content of the prior art (MPEP §2141.01)**

Jones teaches a direct epoxidation process using a mixed catalyst wherein one catalyst is a palladium free titanium catalyst and the other catalyst includes but is not limited to, for example titanium and gold. See, for example, column 2 lines 8-10, 19, 35-37 and 48-51.

**Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)**

Jones differs from the claimed invention in that it does not explicitly include a palladium component.

**Finding of prima facie obviousness—rational and motivation (MPEP §2142-2413)**

However, Jones does disclose that is well known for use in these types of processes in order to promote the in-situ formation of the oxidizing agent. See column 1 lines 41-46. Further, JP 4-352771 teaches an analogous process which employs a titanium palladium catalyst. In view of the art as a whole it would have

been obvious to one on ordinary skill in the art to combine the teaches of Jones and JP 4-352771 in order to obtain their cumulative effects.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grey et al US 6,498,259 in view of Bowan et al WO 98/00413.

**Determination of the scope and content of the prior art (MPEP §2141.01)**

Grey et al teaches a direct epoxidation process using a mixed catalyst being titanium, for example TS-1, and a noble metal catalyst, for example palladium and gold in the same type manner as recited in the claims. See, for example, column lines 25-27, 35-37, column 41-48, column 32-45, column 7 lines 3042, example 3, lines 60-70, column 8 lines 47-70, comparative example 7, particularly lines 62-63.

**Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)**

While Grey et al discloses using titanium without catalyst with titanium containing palladium catalyst, it may be argued that a palladium free titanium catalyst is not disclosed.

**Finding of prima facie obviousness—rational and motivation (MPEP §2142-2413)**

However, Bowan et al discloses that titanium catalyst compositions falling within the scope of Grey et al are considered palladium free when the amount of palladium is less than 0.01 in analogous process. See page 11 lines 8-12. In view of the art as a whole it would have been obvious to one on ordinary skill in the art

to modify the process of Grey et al to incorporate the teachings of Bowan et al in order to obtain the cumulative effects of the mixed catalyst system.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Bowan et al WO 98/00413.

Claims 19 and 20 are drawn to epoxide products which are well-known in the art as shown, for example by Bowman et al. Although the claims are drawn to products by process it is noted that these products are known notwithstanding the means by which they are produced.

No claim is allowed.

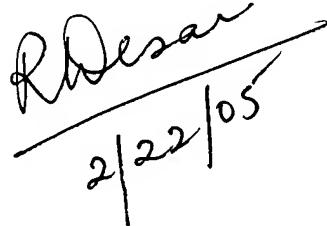
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Covington whose telephone number is (571) 272-0681. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, C. Tsang can be reached on (571) 272-0562. The fax

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Raymond Covington  
Examiner  
Art Unit 1625

  
R. Desai  
2/22/05